

## ELECTRICAL CURRENT COLLECTOR COOLING AND COOLING FOR HIGH VOLTAGE ROTATING MACHINES

### ABSTRACT

An electrical current collector system comprising an electrically conductive slip ring mounted to a rotatable shaft and a fixed conducting ring assembly forming a partially enclosed AC high voltage electrical current conductive ring channel in which slip ring contacting members are mounted. A compartment at ground potential at least partially encloses the slip ring and the fixed conducting ring assembly. A source directs a fluid into the compartment so that the fluid travels through into the conductive ring channel to perform at least one of cooling and cleaning of the slip ring contacting members. A hollow conically shaped insulator has a frustum with a narrower cross-sectional opening connected to the conductive ring channel and a larger diameter cross-sectional portion passing through and connected to the compartment for exhausting the fluid from the current conductive ring channel.